REMARKS

Status of the Application

This amendment is filed in response to the Office Action dated March 18, 2008. Claims 1-30 were pending. The Office Action rejected claims 1-30. By way of this response, claims 11, 18, and 26 are amended, claims 12, 19, and 27 are canceled, and claims 31-33 are new. Support for the amendments to claims 11, 18, and 26 and new claims 31-33 is found at paragraph 0030 of the published application, and elsewhere throughout the original specification and claims. Thus, claims 1-11, 13-18, 20-26, and 31-33 are pending and at issue.

Applicant Initiated Interview of June 12, 2008

The applicants' representative, Andrew R. Smith, conducted an interview with Examiner Ben Wang on June 12, 2008. to discuss the rejections of claims 1-30. The parties discussed the application of U.S. Patent Application Pub. No. 2002/0112227 to Kramskoy et al. (hereinafter "Kramskoy") to the claims and, in particular, the relationship between the "patch" as described in Kramskoy and "replacing an object code segment from the generated object code..." as generally recited in claims 1, 15, and 22. Additionally, the parties discussed the present amendments to claims 11, 18, and 26. No agreement was reached.

Rejections under 35 U.S.C. §103

Claims 1-30 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Pub. No. 2004/0010785 to Chauvel et al. (hereinafter "Chauvel") in view of U.S. Patent Application Pub. No. 2002/0112227 to Kramskoy et al. (hereinafter "Kramskoy"). Applicants respectfully traverse this rejection.

"To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art." *MPEP* §2143.03, *citing In re Royka*, 180 USPQ 580 (CCPA 1974). As will be explained further with reference to specific claims, the Office Action failed to establish that the alleged combination of Chauvel and Kramskoy teaches, discloses, or suggests each and every element of each of claims 1-30.

Claim 1

Claim 1 is generally directed to a method that includes "compiling [a] plurality of non-native instructions [in a selected one of a source form and an intermediate form] to generate object code for the non-native instructions, wherein compiling the plurality of non-native instructions (*e.g.*, source or intermediate form) includes replacing an object code segment from the generated object code with an alternative object code segment if the alternative object code segment improves at least a selected one of a power level required and an amount of energy required to execute the generated object code in a target execution environment." At least this element is not disclosed or suggested by the alleged combination of Chauvel and Kramskoy.

The Office Action admits that Chauvel does not disclose this element, but then alleges that such element is disclosed by Kramskoy. But Kramskoy describes inserting a patch into compiled code that causes execution to jump from one piece of compiled code to another, and inserting a patch is not replacing an object code segment as recited in claim 1. As generally recited in claim 1, replacing object code requires removal of an identified code segment as well as exchanging the identified code with different code that improves the power level or amount of energy required to execute the code. On the other hand, inserting a patch, as described by Kramskoy, does not replace or exchange any code, but rather, merely adds entirely new code. Further, the inserted patch adds instructions and complexity to the original code that, but for the patch, would not have otherwise existed. In other words, Kramskoy describes inserting a patch which adds a number of instructions and complexity to the original code, whereas, claim 1 generally recites the removal and exchange of identified object code so that power level or amount of energy required to execute the generated code is improved.

The Office Action further alleges that Kramskoy describes inserting the patch to improve the power level or amount of energy required to execute the generated object code as generally recited in claim 1. However, this element is not disclosed or suggested by Kramskoy. Instead of improving the power level or amount of energy required, Kramskoy describes inserting the patch to generate a dominant execution path to handle exceptions. In fact, the patch described by Kramskoy adds complexity to the code and requires more power to execute than the original

code. In particular, Kramskoy describes the inserted patch as including a "control transfer instruction" that:

> preferably... is of a type which can point to an address which is further from its own address than if the most optimum form of the control transfer instruction were used (paragraph 1404, emphasis added).

As is known in the art, accessing addresses that are further away and instructions that are preferably not the most optimum form require more power or energy to execute than those that are closer or are optimized. Therefore, because the patch described by Kramskoy merely generates a dominant execution path and would require more energy to execute than the original instructions, the reference cannot disclose or suggest improving the power level or amount of energy required to execute the generated object code, as generally recited in claim 1.

At least for these reasons, the alleged combination of Chauvel and Kramskoy does not render claim 1 unpatentable.

Claims 2-10, 15-17, 22-25

With regard to claims 2-10, which depend from claim 1, Applicants respectfully submit that the alleged combination of Chauvel and Kramskoy does not render claims 2-10 unpatentable at least for the same reasons as claim 1.

With regard to claims 15-17 and 22-25, Applicants respectfully submit that the alleged combination of Chauvel and Kramskoy does not render claims 15-17 and 22-25 unpatentable at least for reasons similar to those discussed above with respect to claim 1.

Claim 11

Claim 11 is generally directed to a method that, as amended, includes "determining an initial number of times to interpretively execute the non-native instructions based at least in part on one or more of an expected power level required or an expected energy required to perform an average compile." At least this element is not disclosed or suggested by the alleged combination of Chauvel and Kramskoy.

Instead, Chauvel generally describes creating an execution profile for compiled code that includes, among other things, relating power consumption to individual operations in a virtual machine that may employ interpretive execution, but does not describe interpretively executing the instructions a number of times. Kramskoy describes determining a dominant execution path for instructions by interpretively executing the instructions a threshold number of times and queuing the instructions for compilation once the threshold is met. The threshold described by Kramskoy is either fixed or dynamically determined based on the length of the compilation queue (Paragraphs 0057, 0122, and 0125). As generally recited in claim 11, the received non-native instructions are executed with an interpreter an initial number of times. Particularly, the initial number of times is based on one or more of an expected power level or an expected energy required to perform an average compile. Basing a threshold for the number of times pre-compiled code is to be interpretively executed on the size of a compilation queue does not teach or suggest basing a number of times to interpretively execute non-native instructions on the energy required for an average compile.

At least for these reasons, the alleged combination of Chauvel and Kramskoy does not render claim 11 unpatentable.

Claims 13, 14, 18, 20, 21, and 26-33

With regard to claims 13 and 14, which depend from claim 11, Applicants respectfully submit that the alleged combination of Chauvel and Kramskoy does not render claims 13 and 14 unpatentable at least for the same reasons as claim 11.

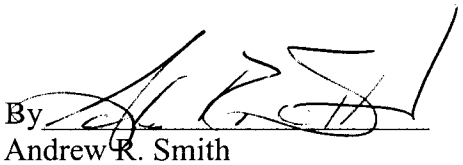
With regard to claims 18, 20, 21, and 26-33, Applicants respectfully submit that the alleged combination of Chauvel and Kramskoy does not render claims 18, 20, 21, and 26-33 unpatentable at least for reasons similar to those discussed above with respect to claim 11.

Conclusion

In view of the above, Applicants submit that the pending application is in condition for allowance and an early action so indicating is respectfully requested.

Dated: June 18, 2008

Respectfully submitted,



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